

NIST Fact Sheet

NIST Position on Proposed OOXML Standard

What is XML?

XML stands for Extensible Markup Language. XML is an open standard developed and maintained by the World Wide Web Consortium (W3C). XML allows the sharing and manipulation of data across different computer systems.

What is the issue?

Ecma International, a worldwide industry association for the standardization of information technology, has submitted Standard ECMA-376, Office Open XML File Formats (December 2006), *for fast track processing* by the International Organization for Standardization and International Electrotechnical Commission (ISO/IEC). ECMA-376 is now being balloted by ISO/IEC as *ISO/IEC DIS 29500 Office Open XML File Formats*. There have been claims that DIS 29500 is duplicative with the already approved standard, *ISO/IEC 26300:2006, Information technology -- Open Document Format for Office Applications (OpenDocument) v1.0*. ISO/IEC 26300 was previously submitted to ISO/IEC by the global e-commerce consortium OASIS (Organization for the Advancement of Structured Information Standards) for fast processing under the Publicly Available Specification (PAS) process in ISO/IEC Joint Technical Committee 1 (JTC 1) on Information Technology. ISO/IEC 26300 is often abbreviated as ODF and DIS 29500 is often abbreviated as OOXML.

What is the purpose of an open document standard?

Open document standards are applicable to word processing documents, spreadsheets, and other types of electronic files, intended to allow computer users to exchange documents more easily between software programs and across hardware platforms.

What are the stated purposes of ODF and OOXML?

Both standards are intended to make XML work with a range of software binary file formats associated with documents, including those that are "legacy" formats, or older computer file formats still in use today. The goal is for computer users to be able to reliably open and process the documents supported in each standard. The following snapshots on the purposes of the two standards are excerpted from the standards:

ISO/IEC 26300:2006, Information technology -- Open Document Format for Office Applications (OpenDocument) v1.0

ISO/IEC 26300:2006 defines an XML schema for office applications and its semantics.

The schema is suitable for office documents, including text documents, spreadsheets, charts and graphical documents like drawings or presentations, but is not restricted to these kinds of documents. ISO/IEC 26300:2006 provides for high-level information suitable for editing documents. It defines suitable XML structures for office documents and is friendly to transformations using XSLT or similar XML-based tools.

ISO/IEC DIS 29500 Office Open XML File Formats

OpenXML was designed from the start to be capable of faithfully representing the preexisting corpus of word-processing documents, presentations, and spreadsheets that are encoded in binary formats defined by Microsoft Corporation. The standardization process consisted of mirroring in XML the capabilities required to represent the existing corpus, extending them, providing detailed documentation, and enabling interoperability. At the time of writing, more than 400 million users generate documents in the binary formats, with estimates exceeding 40 billion documents and billions more being created each year.

What role does NIST play in voting for the DIS 29500?

NIST is a member of the InterNational Committee for Information Technology Standards Executive Board (INCITS EB), the body that casts the U.S. vote on DIS 29500. The INCITS EB now includes 17 voting members, including two others from the U.S. Government (U.S. Department of Homeland Security and U.S. Department of Defense). Other members come from private industry. INCITS serves as the U.S. Technical Advisory Group for ISO/IEC Joint Technical Committee 1 (JTC 1), which is responsible for international standardization in the field of information technology.

The U.S. voting options for DIS 29500 were: APPROVE; APPROVE WITH COMMENTS; DISAPPROVE WITH COMMENTS; or ABSTAIN. In late August 2007, the INCITS EB reached a consensus among its members and submitted a vote of “APPROVE WITH COMMENTS” before the international voting deadline of September 2, 2007.

What was the NIST position on DIS 29500 fast track ballot, which closed on September 2, 2007?

In the absence of any non-resolvable substantive technical issue, NIST believes that the U.S. Government should remain neutral with respect to technology and standards choices. The availability of a wide array of technologies and standards allows the U.S. Government to best meet its information technology needs, while retaining the ability to exchange data.

Technical, editorial, and general comments were identified by various interested parties during the process of determining the U.S. vote on DIS 29500. It is important to note that all consensus standards have technical and other issues identified that need to be negotiated before final approval.

In the first U.S. ballot, issued by INCITS in late July 2007, NIST supported a U.S. vote of “DISAPPROVE, WITH COMMENTS” as the best way to indicate conditional approval of DIS 29500 by the U.S. with the expectation that the technical comments submitted by the U.S. would be satisfactorily addressed. Guidance on how to register conditional approval of a prospective standard is given in clause 9.8 of the ISO/IEC JTC 1 Directives. The end of clause 9.8 says, "Conditional approval should be submitted as a disapproval vote." The first U.S. ballot failed to meet the criteria for approval at the U.S. ballot resolution meeting. As a result of that meeting, the INCITS EB issued two additional ballots in an attempt to reach consensus on a U.S. position.

In the second U.S. ballot, issued by INCITS in August 2007, NIST supported a U.S. vote of “APPROVE, WITH COMMENTS.” This position received enough votes for approval. In the third U.S. ballot, issued at the same time as the second U.S. ballot, all U.S. voting members voted to approve a position of “ABSTAIN.WITH COMMENTS” This position would only have become effective if no consensus could be reached on the second U.S. ballot. With the success of the second U.S. ballot, the results of the third ballot became moot.

In the August 2007 second U.S. ballot, NIST changed its position to “APPROVE, WITH COMMENTS” for two reasons. First, it became clear in the INCITS ballot resolution meetings on the first U.S. ballot that a U.S. consensus would not be achieved on the position of “DISAPPROVE WITH COMMENTS.” Second, NIST wanted to ensure that all of the U.S. comments on the standard would be considered by the ISO/IEC. If the U.S. voting body had been unable to achieve consensus, the U.S. would not have been able to submit its comments for potential consideration by the ISO/IEC.

What is the current status of the international vote?

Approval of the OOXML standard requires at least 2/3 (i.e., 67 %) of the votes cast by National Bodies participating in ISO/IEC JTC 1 to be positive; and no more than 1/4 (i.e., 25 %) of the total number of National Body votes cast negative. In the September 2007 vote, these criteria for approval were not achieved. Only 53 % of votes cast by National Bodies participating in ISO/IEC JTC 1 were positive and 26 % of national votes cast were negative.

Comments that accompanied the September 2007 votes were discussed at a February 25-29, 2008 ballot resolution meeting (BRM) organized by the relevant subcommittee of ISO/IEC JTC 1 (SC 34, Document description and processing languages) in Geneva, Switzerland. The objective of the BRM meeting was to review and seek consensus on possible modifications to the document in light of the comments received along with the votes.

Now that the disposition of all comments has been approved by the BRM, National Bodies, including the U.S., have the opportunity to reaffirm their original vote or change it. The international deadline is March 29, 2008. If the final international vote tally is sufficient for approval, OOXML will be published as an ISO/IEC international standard.

If the final vote tally fails, then OOXML could still be submitted for processing under the ISO/IEC JTC 1/SC 34 program of work.

What is the NIST position on DIS 29500, as modified by the BRM?

INCITS Technical Committee V1 (Text Processing: Office and Publishing Systems Interface (INCITS/V1)) has reviewed the changes to the balloted standard and recommended to INCITS EB approval of DIS 29500 as modified by the BRM of February 25-29, 2008. Subsequently, INCITS issued a Letter Ballot to the INCITS EB membership, which closed on Thursday March 13, 2008, with the question:

“Do you approve the INCITS/V1 recommendation for US National Body approval of ISO/IEC DIS 29500, Information technology - Office Open XML file formats, as modified by the BRM of February 25-29, 2008?”

NIST voted “YES WITH COMMENTS” on this ballot. The determination of the NIST vote was based on review of the recommendation from INCITS Technical Committee V1 to the INCITS EB, coordination with the two other U.S. Government agencies who are INCITS EB members, and inputs from other stakeholders who contacted NIST to discuss the technical merits of the final version of DIS 29500.

Does NIST vote as a bloc with other U.S. Government members of the INCITS EB?

In addition to NIST, there are two other U.S. Government members of INCITS EB. They are the U.S. Department of Defense (DoD) and the U.S. Department of Homeland Security (DHS). NIST, DoD, and DHS are not obligated to vote for the same position on a ballot. Their different missions may require them to take different positions upon occasion.

However, NIST is required by U.S. Government policy to coordinate its position with DoD and DHS prior to voting. This is required by the Office of Management and Budget (OMB) Circular A-119 Revised (February 10, 1998): Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities, 15. b. (3). Here is an excerpt from the OMB Circular:

“Ensuring, when two or more agencies participate in a given voluntary consensus standards activity, that they coordinate their views on matters of paramount importance so as to present, whenever feasible, a single, unified position and, where not feasible, a mutual recognition of differences.”